
Legionellosis: Frequently Asked Questions

What is legionellosis?

Legionellosis is a bacterial infection with two distinct forms: Legionnaires' disease (LD) is the more severe form and is characterized by pneumonia. Pontiac fever is an acute flu-like, self-limited illness without pneumonia. Ninety percent of cases of Legionnaires' disease are caused by *Legionella pneumophila* serogroup 1. Of the approximately 40 known species of *Legionella*, only about 11, including *Legionella pneumophila* serogroups 3 and 6, are known to cause illness in humans, and usually only in persons with significant underlying disease.

How common is legionellosis?

An estimated 8,000 to 18,000 people get LD in the US each year. In Los Angeles County, between 10 and 20 confirmed cases are reported annually, although the disease is probably under-diagnosed. Approximately 200 to 400 cases probably occur annually in Los Angeles.

Where are *Legionella* bacteria usually found?

Legionella bacteria live mainly in water. They are common in nature in rivers, creeks, and lakes, and in moist soil. They often are present in low numbers in drinking water supplies. The bacteria can reproduce to high numbers in warm, stagnant water, such as that found in certain plumbing systems and hot water tanks, cooling towers and evaporative condensers of large air-conditioning systems, and whirlpool spas. One *Legionella* species, *L. longbeachae*, has been found in potting soil. Although *Legionella* species can be cultured in up to 40% of cooling towers, these devices are rarely associated with outbreaks of LD.

What is the significance of culturing *Legionella* from cooling towers or water systems of large buildings?

In the absence of confirmed cases of LD, the relationship between the results of water cultures and the risk for legionellosis is undefined. The Centers for Disease Control and Prevention (CDC) states that the presence of legionella in water by itself does not increase the risk of getting the disease. The bacterium is frequently present in water systems of buildings without being associated with known cases of disease. Thus, data are insufficient to assign a level of risk for disease even on the basis of the number of bacteria detected in samples from water sources.

Can I get legionella disease from a water fountain if the organism is in drinking water? Can I get it from the spray of a flushing toilet?

The risk of getting legionella from drinking fountain water is minimal to non-existent, unless you have recently had head and neck surgery. The risk from getting *Legionella* from toilet water spray has not been implicated in disease acquisition.

What is being done to prevent legionellosis?

The risk of infection in office buildings can be reduced by regular cleaning and disinfection of possible sources. Cal/OSHA regulations (GISO 5142) require regular inspection and maintenance of heating, ventilating, and air conditioning (HVAC) systems. Systems must be inspected at least annually, and problems found during these inspections must be corrected within a reasonable time. The inspections and maintenance must be documented in writing, and records must be made available to employees for examination and copying.

What are the usual symptoms of legionellosis?

Patients with LD pneumonia usually have fever, chills, and a cough, which may be dry or may produce sputum. Some patients also have muscle aches, headache, tiredness, loss of appetite, and occasionally diarrhea. Chest x-rays show pneumonia. It is difficult to distinguish LD from other types of pneumonia by symptoms alone; other tests are required for diagnosis.

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Persons with Pontiac fever experience fever and muscle aches and do not have pneumonia. They generally recover in 2 to 5 days without treatment.

The time between the patient's exposure to the bacterium and the onset of illness for LD is 2 to 10 days; for Pontiac fever, it is shorter, generally a few hours to 2 days.

Can you be exposed to *Legionella* and not get sick?

Yes, 10 to 20% of people, when tested, can be shown to have had prior exposure to *Legionella* bacteria and not have had any symptoms of disease.

How is legionellosis spread?

Outbreaks of legionellosis have occurred after persons have breathed mists that come from a water source (e.g., air conditioning cooling towers, whirlpool spas, showers) contaminated with *Legionella* bacteria. Persons may be exposed to these mists in homes, workplaces, hospitals, or public places. Legionellosis is not passed from person to person.

How is legionellosis diagnosed?

The diagnosis of legionellosis requires special tests not routinely performed on persons with fever or pneumonia. The most useful tests detect the bacteria in sputum, find *Legionella* antigens in urine samples, or compare antibody levels to *Legionella* in two blood samples obtained 3 to 6 weeks apart. A single blood test cannot be used to diagnose legionellosis.

Who gets legionellosis?

The illness most often affects middle-aged and older persons, particularly those who smoke cigarettes or have chronic lung disease. Also at increased risk are persons whose immune system is suppressed by diseases such as cancer, kidney failure requiring dialysis, diabetes, or AIDS.

What is the treatment for legionellosis?

Several antibiotics, including levofloxacin (Levoquin), azithromycin (Zithromax), and erythromycin, are available for treating persons with LD. In severe cases, a second drug may be added. Treatment is usually effective, if started early. Pontiac fever requires no specific treatment.

If I got Legionnaires' disease, what is the likelihood it would be due to an exposure at work?

Other sources of legionella include mist machines, humidifiers, whirlpool spas and hot springs. *Legionella* has also been cultured from home water systems. The risk of getting legionella at work versus anywhere else in the environment would be hard to pinpoint.

What should I do to minimize my risk?

As smoking cigarettes is a known risk factor, one should quit smoking.

Where can I get more information?

Employees who need information or assistance concerning workplace health and safety regulations, or who want to file a complaint, can contact the nearest office of Cal/OSHA. For the address and telephone number, look in the government section near the front of the telephone book, under "California, Department of Industrial Relations, Division of Occupational Safety and Health." Other resources for employees may include a supervisor, union, company health and safety office, personal or company doctor, the county Health Department website <http://lapublichealth.org> or the CDC website at <http://www.cdc.gov>.

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